

Patent Claims

1. A heat exchanger (1) having a number of flat tubes
5 (2) which are arranged parallel to and at a distance
from one another and via at least one end (8) can be
fed with a fluid (F) via a collection manifold (6), the
flat tubes (2) being arranged at least partially in a
positively locking manner in the collection manifold
10 (6).

2. The heat exchanger as claimed in claim 1, in which
an outer contour (10), which represents the end (8) of
the respective flat tube (2), is at least partially
15 matched to an internal contour (12) which represents
the collection manifold (6).

3. The heat exchanger as claimed in claim 1, in which
an outer contour (10), which represents the end (8) of
20 the respective flat tube (2), is at least partially
matched to an external contour (10) which represents
the collection manifold (6).

4. The heat exchanger as claimed in one of claims 1
25 to 3, in which the end (8) of at least one of the flat
tubes (2) is provided with one or more openings (13).

5. The heat exchanger as claimed in one of claims 1
to 4, in which the end (8) of at least one of the flat
30 tubes (2) has an open contour or opening.

6. The heat exchanger as claimed in one of claims 1
to 5, in which the end (8) of at least one of the flat
tubes (2) is provided with webs (20) on the outer side.

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7. The heat exchanger as claimed in one of claims 1
to 6, in which the end (8) of at least one of the flat
tubes (2) is provided with a further, centrally

arranged web (20).

8. The heat exchanger as claimed in one of claims 2 to 7, in which the end (8) of the respective flat tube 5 (2) is at least partially routed in a recess (14) which runs inside the internal contour (12).

9. The heat exchanger as claimed in one of claims 1 to 8, in which the end (8) of the respective flat tube 10 (2) is held in a positively locking manner at the collection manifold (6).

10. The heat exchanger as claimed in claim 8 or 9, in which the end (8) of the respective flat tube (2) is 15 soldered along the recess (14) of the collection manifold (6).

11. The heat exchanger as claimed in one of claims 1 to 10, in which the collection manifold (6) is provided 20 with at least one cutout (24) or a recess (14) for one of the flat tubes (2) to pass through.

12. The heat exchanger as claimed in claim 11, in which the end (8) of the flat tube (2) in question is 25 held cohesively at the cutout (24) of the collection manifold (6).

13. The heat exchanger as claimed in one of claims 1 to 12, in which the collection manifold (6) is 30 longitudinally and/or transversely divided into at least two regions (16).

14. The heat exchanger as claimed in one of claims 1 to 13, in which the end (8) of at least one of the flat 35 tubes (2) is provided with a slot (34) for receiving a partition wall (26).

15. The heat exchanger as claimed in claim 14, in

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which the partition wall (26) has a through-opening (32).

16. The heat exchanger as claimed in one of claims 1
5 to 15, in which the flat tubes (2) open out into an
associated collection manifold (6) at each of the end
sides.

17. The heat exchanger as claimed in claim 16, in
10 which the collection manifolds (6) arranged at the end
sides of the flat tubes (2) are of identical design.

18. The heat exchanger as claimed in one of claims 1
to 17, in which the flat tubes (2) arranged in a
15 positively locking manner in the collection manifold
(6) have differently designed ends (8).

19. The heat exchanger as claimed in one of claims 1
to 18, in which at least one of the flat tubes (2)
20 arranged in a positively locking manner in the
collection manifold (6) is closed and acts as a
partition wall.

20. An air-conditioning system for a vehicle having a
25 heat exchanger (1) as claimed in one of claims 1 to 19.